

**CLAIMS**

1. A composite yarn comprising a filament yarn made of inorganic or organic material and a matrix made of polymeric material comprising at least one foamed polymer, said filament yarn being covered, coated, extruded or incorporated in said matrix made of polymeric material, characterized in that the fibers forming the filament yarn are uniformly distributed in the matrix made of polymeric material.  
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2. The composite yarn as claimed in claim 1, characterized in that the polymer is foamed by employing a chemical foaming system.  
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3. The composite yarn as claimed in either of the preceding claims, characterized in that the polymer is foamed by employing a mechanical foaming system.
4. The composite yarn as claimed in any one of the preceding claims, characterized in that the inorganic material constituting the fibers of the filament yarn is chosen from the group consisting of glass or silica.  
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5. The composite yarn as claimed in any one of the preceding claims, characterized in that the organic material of synthetic origin constituting the fibers of the filament yarn is chosen from the group consisting of polyolefins, polyesters, polyamides, polyvinyls and acrylics.  
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6. The composite yarn as claimed in any one of the preceding claims, characterized in that the organic material of natural origin constituting the fibers of the filament yarn is chosen from the group consisting of flax or cotton.  
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7. The composite yarn as claimed in any one of the preceding claims, characterized in that it comprises a core made of a composite yarn as claimed in any one of the preceding claims, covered, coated, extruded or  
5 incorporated in a second matrix made of polymeric material formed around the core.
8. The composite yarn as claimed in claim 7, characterized in that the polymeric material constituting the matrix of the core and that of the second matrix formed around the core, are of an identical or different nature.  
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9. The composite yarn as claimed in any one of the preceding claims, characterized in that the polymeric material of one or of the two matrices is chosen from chlorinated polymers.  
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10. The composite yarn as claimed in any one of the preceding claims, characterized in that the polymeric material of one or of the two matrices is chosen from polyvinyl chloride, post-chlorinated PVCs, polyvinylidene chlorides and chlorinated polyolefins.  
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- 25 11. The composite yarn as claimed in any one of the preceding claims, characterized in that the polymeric material of one or of the two matrices is chosen from organopolysiloxanes.
- 30 12. The composite yarn as claimed in any one of the preceding claims, characterized in that the polymeric material of one or of the two matrices is chosen from polyurethanes.
- 35 13. The composite yarn as claimed in any one of the preceding claims, characterized in that the polymeric material of one or of the two matrices is chosen from polyolefins.

14. The composite yarn as claimed in any one of the preceding claims, characterized in that the polymeric material of one or of the two matrices is chosen from the group consisting of acrylics,  
5 polymethylmethacrylate (PMMA) or polytetrafluoroethylene (PTFE).

10 15. The composite yarn as claimed in any one of the preceding claims, characterized in that it additionally includes a flame retardant filler chosen from the group consisting of zinc borate, aluminum hydroxide, antimony trioxide and zinc hydroxystannate.

15 16. The method for producing a composite yarn, characterized in that a filament yarn, obtained by spinning fibers made of an organic or inorganic material or of natural fibers, is subjected to coating with a polymeric material containing a foaming system.

20 17. The method for producing a composite yarn, characterized in that a filament yarn, obtained by spinning fibers made of an organic or inorganic material or of natural fibers, is subjected to coating with a polymeric material containing a foaming system,  
25 and then to a second step of coating with or extruding in a polymeric material containing or not containing a foaming system.

30 18. The method for producing a composite yarn, characterized in that a filament yarn, obtained by spinning fibers made of an organic or inorganic material or of natural fibers, is subjected to extrusion in a polymeric material containing a foaming system.

35 19. The method for producing a composite yarn, characterized in that a filament yarn, obtained by spinning fibers made of an organic or inorganic material or of natural fibers, is subjected to

extrusion in a polymeric material containing a foaming system and then to a second step of coating with or extruding in a polymeric material containing or not containing a foaming system.

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20. The method for producing a composite yarn, characterized in that a filament yarn, obtained by spinning fibers made of an organic or inorganic material or of natural fibers, is subjected to a method 10 for mechanically opening the yarn enabling said fibers to be separated, simultaneously or prior to its being coated with or extruded in a polymeric material containing a foaming system.

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21. The method for producing a composite yarn, characterized in that a filament yarn, obtained by spinning fibers made of an organic or inorganic material or of natural fibers, is subjected to a method for mechanically opening the yarn enabling said fibers 20 to be separated, simultaneously or prior to a primary coating with a liquid preparation of a monomer or polymer in the liquid state containing a foaming system, or prior to it being extruded in a polymeric material containing a foaming system, and in that the 25 composite yarn obtained is subjected to a second coating with or a second extrusion in a polymeric material containing or not containing a foaming system.